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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/871,671	06/04/2001	Yasuhiro Yamaji	04329.2567	1350

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EXAMINER

MITCHELL, JAMES M

ART UNIT

PAPER NUMBER

2827

DATE MAILED: 06/19/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/871,671

Applicant(s)

YAMAJI, YASUHIRO

Examiner

James Mitchell

Art Unit

2827

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 June 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☒ Claim(s) 25 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. This office action is in response to the priority papers filed June 4, 2001.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. There is insufficient antecedent basis for the limitations: the circumferential surface, the outer circumferential surface/direction, the longitudinal direction and the inner circumferential.

4. In regards to claim 14, it is ambiguous as to how bodies are arranged... in an "outer circumferential direction." There appears to be a grammatical error.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-11, 13, 16, 17, 20, 24 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Sharp (JP 9-107129).
7. Sharp (Fig A, B) discloses a semiconductor device and method comprising a cylindrical substrate (2) and a plurality of stacked semiconductor chips (3) formed and mounted on the circumferential surface of said substrate, inherently bending said

semiconductor chip to form a bent chip along the surface of said substrate, said chips arranged to cover both the entire outer and inner circumferential surface of said substrate, said plurality of chips arranged/mounted on an inner circumferential surface of said substrate in the longitudinal direction of said substrate a predetermined distance apart, and bending (roll; English title) said flexible substrate.

8. Claims 1, 12, 13-14, 18, 19 and 21-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Buck (U.S. 5,203,721).

9. Buck (Fig 3) discloses a cylindrical substrate (5), at least one semiconductor chip (19) formed and mounted on an inner circumferential surface portion on an outer circumferential surface of said substrate, said semiconductor chip being bent along the surface of said substrate, wherein a plurality of terminals (16, 17) for connection are arranged in one edge portion in the longitudinal direction of said cylindrical substrate, said terminals electrically connected to said chip (Column 3, Lines 31-33).

10. Buck does not appear to disclose a plurality of chips stacked one upon the other to form a stacked body on a surface of said substrate, or a plurality of stacked bodies arranged at a predetermined distance apart in the outer circumferential direction of said substrate however examiner takes official notice that it would have been obvious to one of ordinary skill in the art to stack chips in order to increase device density as was well known at the time the invention was made.

11. While the prior art doesn't appear to disclose a plurality of chips or stacked bodies, it would have been to one of ordinary skill in the art at the time the invention was made to duplicate a chips, since it has been held that mere duplication of essential

working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8 (CA7 1977), *In re Harza* 124 USPQ 378 (CCPA 1960).

12. With respect to claim 22, Buck does not appear to show a chip sealed with resin, however examiner takes official notice that it would have been obvious to one of ordinary skill in the art to seal chip and substrate with a resin in order to protect the chip from hazards as was well known at the time the invention was made.

Allowable Subject Matter

13. Claim 25 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Mitchell whose telephone number is (703) 305-0244. The examiner can normally be reached on M-F 10:30-8:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David L. Talbott can be reached on (703) 305-9883. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3432 for regular communications and (703) 305-3230 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

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Art Unit: 2827

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June 14, 2002

06/14/02
DAVID E. GRAYBILL
PRIMARY EXAMINER